

DEPARTMENT OF ECOLOGY

March 15, 1993

Implementation Memo No. 1

TO: Interested Staff

FROM: Carol Kraege
Toxics Cleanup Program

SUBJECT: Guidance on the Use of MCLs as Cleanup Levels

ISSUE: When is an MCL considered "sufficiently protective?"
If an MCL is not sufficiently protective, what is the appropriate cleanup level for an individual hazardous substance?

The MTCA requires that cleanup levels for individual hazardous substances be at least as stringent as concentrations established under applicable state and federal laws. For hazardous substances for which sufficiently protective, health-based criteria or standards have not been established under applicable state and federal laws, cleanup levels for protecting human health are determined using the formulas presented in the regulation for each affected media. Formula values represent the 1×10^{-6} excess cancer risk level for carcinogens and the hazard quotient of 1.0 for non-carcinogens.

When groundwater is the affected media, cleanup levels are often set for contaminants for which EPA has established maximum contaminant levels (MCLs). If an MCL is considered to be "sufficiently protective" under the MTCA rules, then it may be used as a cleanup level for that individual contaminant. Due to the level of effort which EPA invests in determination of the MCL, and the resulting increased level of certainty regarding actual risk of these contaminants, **Ecology has determined that MCLs which are less than or equal to the 1×10^{-5} risk level or a hazard quotient of one, are considered sufficiently protective.**

Carcinogenic contaminants with an MCL exceeding the 1×10^{-5} level are not considered sufficiently protective. In such cases, cleanup levels are then calculated using the formulas presented in the regulation, generally resulting in cleanup levels at the 1×10^{-6} level.

Interested Staff
March 15, 1993
Page 2

This approach is consistent with the intent of the regulation, which requires that cleanup levels be set at the 1×10^{-6} level for individual constituents. Traditionally, Ecology has allowed the "re-computing" of MCLs to the 1×10^{-5} level for individual contaminants, which undermines the basic intent of the regulation to use 10^{-6} as the definition of clean. **This memo represents a correction in the program methodology for using MCLs as cleanup levels.**

After the individual cleanup levels have been established, regardless of whether or not the MCL is found to be sufficiently protective, if a site has multiple constituents or multiple pathways, we must determine if a downward adjustment of the individual cleanup levels is necessary to assure that the total site risk does not exceed 1×10^{-5} . This is a separate effort from determination of the individual cleanup levels. The rule does not indicate which constituents must be adjusted, just that the total cannot exceed 10^{-5} . Once these adjusted values have been established, the project manager must still determine whether or not the value can be measured. It is anticipated that for many of the constituents addressed in this memo, the cleanup level will ultimately be determined by technology and be set at the practical quantitation limit (PQL). Further guidance regarding the use of PQLs is forthcoming.

Attached is a list of chemicals with MCLs which exceed the 1×10^{-5} level, and the revised flow chart illustrating the process for determining the appropriate cleanup level.

CBK:df
Attachment

cc:Pete Kmet, TCP

j:\politech\mcl.cbk

CHEMICAL NAME	BASIS
chlordane	b
arsenic	b
polychlorinated biphenyls	c
heptachlor epoxide	c
heptachlor	c
vinyl chloride	c
toxaphene	c
styrene	c
dichlorobenzene; 1,4-	c
dibromoethane; 1,2-	c
carbon tetrachloride	c
dichloroethene; 1,1-	c
dichloroethane; 1,2-	c
fluorine, soluble fluoride	t
chromium (VI)	t
silver	t

Overall number: 16

Carcinogenicity (c): 11
 Toxicity (t): 3
 Both (b): 2

Flowchart for Developing Medium Specific Cleanup Levels for Individual Substances Using Method B

